Abstract of the Disclosure

The invention provides a method and system for computer assisted automatic error detection and diagnosis of file servers. Software modules periodically and continuously review monitoring statistics gathered by the file server regarding its operation. The monitoring statistics are processed by a pattern matching system and a rule-based inference system. Software modules augment known network protocols, by manipulating parameters of lower-level protocols using different higher-level protocols. Software modules manipulate known parameters of the lower-level protocols in rapid succession, so as to try a large number of combinations of protocol parameters. Using the higher-level protocols, software modules determine if the selected parameters for the lower-level protocols are correct. Software modules impose sequential and combined constraints on diagnosis of possible errors, with reference to known logical coupling between monitoring statistics gathered at multiple logical levels of software modules within the file server. Constraints from multiple logical levels are chained together so as to limit the number of possible errors deduced as possible from the various monitoring statistics to a relatively small number. Software modules track hardware and software configuration changes to the file server, and relating changes in known monitoring statistics to timing of those hardware and software configuration changes. Software modules determine the configuration change most likely to be responsible for a computer assisted diagnosed error, and of suggesting activities to reverse the hardware and software configuration changes so as to place the file server in an operating state.